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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,561	02/09/2004	Vincent Park	060568U3	1112

23696 7590 01/29/2010

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EXAMINER	
DANIEL JR, WILLIE J	

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
01/29/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/774,561	PARK ET AL.	
	Examiner	Art Unit	
	WILLIE J. DANIEL JR	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *58-104* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *58-104* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to applicant's communication filed on 11 March 2009. **Claims 58-104** are now pending in the present application and **claims 1-57** are canceled. This office action is made **Final**.

Claim Objections

2. **Claims 103-104** are objected to because of the following informalities:
    a. Claims 103-104 include the limitation "...with **the** intended end..." as recited in line(s) 7-8 of claim 103. The Examiner interprets as --with **an** intended end-- and suggests replacing said limitation to have proper **antecedent** and help clarify the claim language.

    Appropriate correction is required.
3. Due to the objections of the current claim language, the Examiner has given a reasonable interpretation of said language and the claims are rejected as broadest and best interpreted. In addition, applicant is welcomed to point out where in the specification the Examiner can find support for this language if Applicant believes otherwise.
4. This list of examples is not intended to be exhaustive. The Examiner respectfully requests the applicant to review all claims and clarify the issues as listed above as well as any other issue(s) that are not listed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 58-59, 62-64, 66-68, 70, 73-75, 77-79, 81, 84-86, 88-90, 92, 95-97, 99-101, and 103-104 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sanmugam (US 5,533,094)** in view of **Miah et al.** (hereinafter Miah) **(EP 1217855 A1)**.

Regarding **claim 58**, Sanmugam discloses a system for distributed packet-based paging having a plurality of access nodes (e.g., BS 256) configured to exchange paging information over corresponding access links, the plurality of access nodes serving a plurality of end nodes (e.g., mobile station M1), each end node being associated with, and configured to receive a page from, at least one access node (see col. 4, line 56 - col. 5, line 45; Figs. 1 & 9),

the system further characterized in that each of the plurality of access nodes (e.g., BS 256) comprises at least one of a paging requirements determination (PRD) module (e.g., BS 256) and a paging resource control (PRC) module (e.g., BS 256) (see col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9 & 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent,

where each PRD module determines paging requirements to send to a PRC module in communication with an intended end node of a page, the paging requirements being

determined at least in part (i) from analyzing at least one of a header field and payload field, using a packet classification technique (e.g., class of service or priority), from a data message (e.g., page requests) received over a corresponding access link and (ii) from stored information uniquely associated with the access node (e.g., BS 256) in which the PRD module resides (see col. 5, lines 40-45; col. 4, line 66 - col. 5, line 13; col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9, 1, 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent in which a header field would be implicit due to paging information of the paging requests as evidenced by the fact that one of ordinary skill in the art would clearly recognize. In addition, paging orders are transmitted towards the base station (e.g., 256) and places the page message(s) in buffers of the base stations in which the page message(s) are transmitted according to paging priorities (see col. 12, lines 29-40), where the base station (e.g., 256) determines what the paging priorities are in order to allocate resources to distribute the paging messages appropriately., and

where each PRC module provides PRC functionality in accordance with the paging requirements received from the PRD module, where the PRC functionality includes controlling at least one of (i) paging resources, (ii) paging operations, and (iii) the generation of pages to an intended end node (see col. 5, lines 40-45; col. 10, lines 53-56; col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; Figs. 9, 1, 8A-B), where a base station provides allocates resources to a mobile station (M1) (see col. 4, line 64 - col. 5, line 13) and where paging orders are transmitted towards the base station (e.g., 256) and places the page message(s) in buffers of the base stations in which the page message(s) are transmitted

according to paging priorities (see col. 12, lines 29-40; col. 8, line 45 - col. 9, line 4), where the base station (e.g., 256) determines what the paging priorities are in order to allocate resources to distribute the paging messages appropriately. Sanmugam inexplicitly discloses having the feature(s) at least one of a header field and payload field. However, the examiner maintains that the feature(s) at least one of a header field and payload field was well known in the art, as taught by Miah.

In the same field of endeavor, Miah discloses the feature(s) at least one of a header field and payload field (see col. 2, [0012]; Fig. 1), where the radio access network reads the header (e.g., an indicator of type or priority) of a paging message to schedule or prioritize for transmitting to a mobile phone (2). As further support, Miah at the least further the feature(s) discloses a system for distributed packet-based paging having a plurality of access nodes (e.g., radio access network with RNC 12, node B 16, and transmitter/receiver 20) configured to exchange paging information over corresponding access links, the plurality of access nodes (e.g., radio access network with RNC 12, node B 16, and transmitter/receiver 20) serving a plurality of end nodes (e.g., mobile station 2), each end node (e.g., 2) being associated with, and configured to receive a page from, at least one access node (see col. 1, [0007]; col. 2, [0015] - col. 3, [0017]), where the mobile station (2) is sent a paging message.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sanmugam and Miah to have the feature(s) at least one of a header field and payload field, in order to provide an improved RNC for scheduling or prioritizing paging messages, as taught by Miah (see col. 2, [0011; [0012 or lines 14-18]).

Regarding **claims 59, 70, 81, and 92**, Sanmugam discloses an access node for use in a system with distributed packet-based and characterized by a plurality of access nodes (e.g., BS 256) configured to exchange paging information over corresponding access links and a plurality of end nodes (e.g., mobile station M1) associated with, and configured to receive a page from, at least one access node (see col. 4, line 56 - col. 5, line 45; Figs. 1 & 9), the access node (e.g., BS 256) comprising at least one of:

a paging requirements determination (PRD) module (e.g., BS 256) and a paging resource control (PRC) module (e.g., BS 256) (see col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9 & 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent,

the PRD module determining paging requirements to send to a PRC module in communication with an intended end node of a page, the paging requirements being determined at least in part (i) from analyzing at least one of a header field and payload field, using a packet classification technique (e.g., class of service or priority), from a data message (e.g., page requests) received over a corresponding access link and (ii) from stored information uniquely associated with the access node (e.g., BS 256) in which the PRD module resides (see col. 5, lines 40-45; col. 4, line 66 - col. 5, line 13; col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9, 1, 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent in which a header field would be implicit due to paging information of the paging requests as evidenced by the fact that one of ordinary skill in the art would clearly recognize. In addition, paging orders are transmitted towards the base

station (e.g., 256) and places the page message(s) in buffers of the base stations in which the page message(s) are transmitted according to paging priorities (see col. 12, lines 29-40), where the base station (e.g., 256) determines what the paging priorities are in order to allocate resources to distribute the paging messages appropriately., and

the PRC module providing PRC functionality in accordance with the paging requirements received from the PRD module, where the PRC functionality includes controlling at least one of (i) paging resources, (ii) paging operations, and (iii) the generation of pages to an intended end node (see col. 5, lines 40-45; col. 10, lines 53-56; col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; Figs. 9, 1, 8A-B), where a base station provides allocates resources to a mobile station (M1) (see col. 4, line 64 - col. 5, line 13) and where paging orders are transmitted towards the base station (e.g., 256) and places the page message(s) in buffers of the base stations in which the page message(s) are transmitted according to paging priorities (see col. 12, lines 29-40; col. 8, line 45 - col. 9, line 4), where the base station (e.g., 256) determines what the paging priorities are in order to allocate resources to distribute the paging messages appropriately. Sanmugam inexplicitly discloses having the feature(s) at least one of a header field and payload field. However, the examiner maintains that the feature(s) at least one of a header field and payload field was well known in the art, as taught by Miah.

In the same field of endeavor, Miah discloses the feature(s) at least one of a header field and payload field (see col. 2, [0012]; Fig. 1), where the radio access network reads the header (e.g., an indicator of type or priority) of a paging message to schedule or prioritize for transmitting to a mobile phone (2). As further support, Miah at the least further discloses the

feature(s) an access node (e.g., radio access network with RNC 12, node B 16, and transmitter/receiver 20) for use in a system with distributed packet-based paging and characterized by a plurality of access nodes (e.g., radio access network with RNC 12, node B 16, and transmitter/receiver 20) configured to exchange paging information over corresponding access links and a plurality of end nodes (e.g., mobile station 2) associated with, and configured to receive a page from, at least one access node (see col. 1, [0007]; col. 2, [0015] - col. 3, [0017]), where the mobile station (2) is sent a paging message.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sanmugam and Miah to have the feature(s) at least one of a header field and payload field, in order to provide an improved RNC for scheduling or prioritizing paging messages, as taught by Miah (see col. 2, [0011; 0012 or lines 14-18]).

Regarding **claims 62, 73, 84, and 95**, the combination of Sanmugam and Miah discloses every limitation claimed, as applied above (see claim 59), in addition Sanmugam further discloses the access node of claim 59, wherein the exchange of the paging information is based on an Internet protocol (IP) (see col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9, 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent. As further support, Miah at the least discloses the feature(s) wherein the exchange of the paging information is based on an Internet protocol (IP) (see col. 1, [0002 or lines 13-16]; col. [0012 or lines 12-23]), where communication is provided by a packet radio system exchanging data or paging signals.

Regarding **claims 63, 74, 85, and 96**, the combination of Sanmugam and Miah discloses every limitation claimed, as applied above (see claim 62), in addition Sanmugam further discloses the access node of claim 62, wherein the PRD module determines the paging requirements based on matching IP datagrams to specific paging requirements (see col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9, 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent. As further support, Miah at the least discloses the feature(s) wherein the PRD module determines the paging requirements based on matching IP datagrams to specific paging requirements (see col. 1, [0002 or lines 13-16]; col. [0012 or lines 12-23]), where communication is provided by a packet radio system exchanging data or paging signals.

Regarding **claims 64, 75, 86, and 97**, the combination of Sanmugam and Miah discloses every limitation claimed, as applied above (see claim 59), in addition Sanmugam further discloses the access node of claim 59, wherein at least one of the determined paging requirements is indicative of a quality of service (QoS) (e.g., class of service or priority) (see col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9, 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent. As further support, Miah at the least discloses the feature(s) wherein at least one of the determined paging requirements is indicative of a quality of service (QoS) (e.g., an indicator of type or priority) (see col. [0012 or lines 12-23]), where communication is provided by a packet radio system exchanging data or paging signals.

Regarding **claims 66, 77, 88, and 99**, the combination of Sanmugam and Miah discloses every limitation claimed, as applied above (see claim 64), in addition Sanmugam further discloses the access node of claim 64, wherein the QoS (e.g., class of service or priority) is one of a plurality of levels (see col. 7, lines 8-15; col. 8, line 1-25,45-64; col. 9, line 59-62,8-18; col. 13, lines 1-32; Figs. 9, 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent.

Regarding **claims 67, 78, 89, and 100**, the combination of Sanmugam and Miah discloses every limitation claimed, as applied above (see claim 64), in addition Sanmugam further discloses the access node of claim 64, wherein the QoS (e.g., class of service or priority) requires at least one of transmission of the page multiple times and retransmission of the page at least once in the absence of an acknowledgment (see col. 6, lines 22-40; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; col. 13, lines 1-32; Figs. 9, 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent.

Regarding **claims 68, 79, 90, and 101**, the combination of Sanmugam and Miah discloses every limitation claimed, as applied above (see claim 59), in addition Sanmugam further discloses the access node of claim 59, wherein the determined paging requirements includes determining whether a plurality of paging requests are associated as a group with a common quality of service indicator (see col. 8, lines 24-30,1-9; col. 6, lines 24-26; col. 7, lines 8-15; col. 10, lines 32-34); and

the PRC functionality includes allocating a fraction of paging channel capacity or paging transmission opportunities to the plurality of page requests associated with the group (see col. 8, lines 1-11,30-34; col. 7, lines 8-15; col. 10, lines 53-56; Figs. 9, 2-3).

Regarding **claims 103-104**, Sanmugam discloses an end node for use in a system with distributed packet-based and characterized by a plurality of access nodes (e.g., BS 256) configured to exchange paging information over corresponding access links and a plurality of end nodes (e.g., mobile station M1) associated with, and configured to receive a page from, at least one access node (see col. 4, line 56 - col. 5, line 45; Figs. 1 & 9), the distributed packet-based paging system further characterized in that each of the plurality of access nodes (e.g., BS 256) includes at least one of

a paging requirements determination (PRD) module (e.g., BS 256) and a paging resource control (PRC) module (e.g., BS 256) (see col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9 & 8A-B), where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent,

where each PRD module determines paging requirements to send to a PRC module currently in communication with the intended end node of the page, the paging requirements being derived at least in part (i) from analyzing at least one of a header field and payload field, using a packet classification technique (e.g., class of service or priority), from a data message (e.g., page requests) received over a corresponding access link and (ii) from stored information uniquely associated with the access node (e.g., BS 256) in which the PRD module resides (see col. 5, lines 40-45; col. 4, line 66 - col. 5, line 13; col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; col. 9, line 2; Figs. 9, 1, 8A-B), where page requests are based

on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent in which a header field would be implicit due to paging information of the paging requests as evidenced by the fact that one of ordinary skill in the art would clearly recognize. In addition, paging orders are transmitted towards the base station (e.g., 256) and places the page message(s) in buffers of the base stations in which the page message(s) are transmitted according to paging priorities (see col. 12, lines 29-40), where the base station (e.g., 256) determines what the paging priorities are in order to allocate resources to distribute the paging messages appropriately., and

and each PRC module provides PRC functionality in accordance with the paging requirements received from the PRD module, where the PRC functionality includes controlling at least one of (i) paging resources, (ii) paging operations, and (iii) the generation of pages to an intended end node (see col. 5, lines 40-45; col. 10, lines 53-56; col. 13, lines 1-32; col. 7, lines 8-15; col. 8, line 1-9; Figs. 9, 1, 8A-B), where a base station provides allocates resources to a mobile station (M1) (see col. 4, line 64 - col. 5, line 13) and where paging orders are transmitted towards the base station (e.g., 256) and places the page message(s) in buffers of the base stations in which the page message(s) are transmitted according to paging priorities (see col. 12, lines 29-40; col. 8, line 45 - col. 9, line 4), where the base station (e.g., 256) determines what the paging priorities are in order to allocate resources to distribute the paging messages appropriately,

the end node (e.g., M1) comprising:

means for taking a first action when receiving a first page from a first access node (e.g., 256) having a first PRC module, where the first PRC module generates the first page to the

end node (e.g., M1) on the basis of a data message received by a first PRD module (see col. 13, lines 43-50; col. 6, lines 21-25); and

means for taking a second action when receiving a second page, different from the first page, from a second access node (e.g., 256) having a second PRC module, where the second PRC module generates the second page on the basis of the same data message received by a second PRD module (see col. 5, lines 19-27,51-57; col. 13, lines 43-50; col. 6, lines 21-25), where a mobile station can receive a message in a second cell (e.g., 256)after being hand-off to another cell (e.g., 256). Sanmugam inexplicitly discloses having the feature(s) at least one of a header field and payload field; and means for taking a second action when receiving a second page, different from the first page, from a second access node having a second PRC module, where the second PRC module generates the second page on the basis of the same data message received by a second PRD module. However, the examiner maintains that the feature(s) at least one of a header field and payload field; and means for taking a second action when receiving a second page, different from the first page, from a second access node having a second PRC module, where the second PRC module generates the second page on the basis of the same data message received by a second PRD module was well known in the art, as taught by Miah.

In the same field of endeavor, Miah discloses the feature(s) at least one of a header field and payload field (see col. 2, [0012]; Fig. 1), where the radio access network reads the header (e.g., an indicator of type or priority) of a paging message to schedule or prioritize for transmitting to a mobile phone (2); and

means for taking a second action when receiving a second page, different from the first page, from a second access node (e.g., radio access network with RNC 12, node B 16, and transmitter/receiver 20) having a second PRC module, where the second PRC module generates the second page on the basis of the same data message received by a second PRD module (see col. 1, [0007]; col. 2, [0012 or lines 53-57]; col. 3, [0016 or lines 10-16]). As further support, Miah at the least further discloses the feature(s) an end node (e.g., mobile phone 2) for use in a system with distributed packet-based paging and characterized by a plurality of access nodes (e.g., radio access network with RNC 12, node B 16, and transmitter/receiver 20) configured to exchange paging information over corresponding access links and a plurality of end nodes (e.g., mobile station 2) associated with, and configured to receive a page from, at least one access node (see col. 1, [0007]; col. 2, [0015] - col. 3, [0017]), where the mobile station (2) is sent a paging message.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sanmugam and Miah to have the feature(s) at least one of a header field and payload field; and means for taking a second action when receiving a second page, different from the first page, from a second access node having a second PRC module, where the second PRC module generates the second page on the basis of the same data message received by a second PRD module, in order to provide an improved RNC for scheduling or prioritizing paging messages, as taught by Miah (see col. 2, [0011; 0012 or lines 14-18]).

Claims 60, 71, 82, and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sanmugam (US 5,533,094)** in view of **Miah et al.** (hereinafter Miah) **(EP 1217855 A1)** as applied to claims 59, 70, 81, and 92 above, and further in view of **Palat et al.** (hereinafter Palat) **(US 6,765,890 B1)**.

Regarding **claim 60, 71, 82, and 93**, Sanmugam discloses the access node of claim 59, wherein the PRD module further includes:

a monitoring agent module that determines when to initiate a page to the intended end node (see col. 12, lines 15-28);

a tracking agent module that tracks the location of end nodes based on received location update signals (see col. 7, lines 23-36); and

an anchor paging agent module that coordinates (e.g., priority or order) page request signaling to the intended node (see col. 8, lines 5-9,24-25). The combination of Sanmugam and Miah inexplicitly discloses having the feature(s) received location update signals. However, the examiner maintains that the feature(s) received location update signals was well known in the art, as taught by Palat.

In the same field of endeavor, Palat discloses the feature(s) received location update signals (see col. 4, lines 11-19; col. 5, lines 17-26; col. 6, lines 4-20,44-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sanmugam, Miah, and Palat to have the feature(s) received location update signals, in order to provide an implementation that performs a routing area update as a mobile terminal moves between radio access system coverage areas, as taught by Palat (see col. 2, lines 11-15).

Claims 61, 72, 83, and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sanmugam (US 5,533,094)** in view of **Miah et al.** (hereinafter Miah) **(EP 1217855 A1)** as applied to claims 59, 70, 81, and 92 above, and further supported by **Wallentin et al.** (hereinafter Wallentin) **(US 6,834,191 B2)**.

Regarding **claims 61, 72, 83, and 94**, Sanmugam discloses the access node of claim 59, wherein the PRC module further includes:

a local paging agent module that coordinates signaling between the PRD module and other access nodes (see col. 5, lines 19-27; col. 5, line 65 - col. 6, line 5; col. 6, lines 17-43; Figs. 1-2 & 9), where the system pages surrounding location areas. Sanmugam inexplicitly discloses having the feature(s) signaling between the PRD module and other access nodes. However, the examiner maintains that the feature(s) signaling between the PRD module and other access nodes was well known in the art, as taught by Miah.

In the same field of endeavor, Miah discloses the feature(s) signaling between the PRD module and other access nodes (see col. 1, [0005]; col. 2, [0012, 0015/lines 53-57]), where the RNC (12, 14) are interlinked to communicate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sanmugam and Miah to have the feature(s) signaling between the PRD module and other access nodes, in order to provide an improved RNC for scheduling or prioritizing paging messages, as taught by Miah (see col. 2, [0011; 0012 or lines 14-18]). The combination of Sanmugam and Miah clearly discloses the feature(s) indicated above as evidenced by the fact that one of ordinary skill in the art would clearly recognize. However, the examiner maintains that the feature(s) a local paging agent

module that coordinates signaling between the PRD module and other access nodes was well known in the art, as taught by Wallentin.

As further support in the same field of endeavor, Wallentin discloses the feature(s) a local paging agent module that coordinates signaling between the PRD module and other access nodes (see col. 7, lines 19-23; col. 13, lines 17-31; Figs. 1-2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sanmugam and Miah as further supported by Wallentin to have the feature(s) a local paging agent module that coordinates signaling between the PRD module and other access nodes, in order to provide a technique for paging a mobile station in a multicell area, as taught by Wallentin (see col. 4, lines 24-27).

Claims 65, 76, 87, and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sanmugam (US 5,533,094)** in view of **Miah et al.** (hereinafter Miah) **(EP 1217855 A1)** as applied to claim 64, 75, 86, and 97 above, and further in view of **Laroia et al.** (hereinafter Laroia) **(US 6,823,191 B2)**.

Regarding **claims 65, 76, 87, and 98**, Sanmugam discloses the access node of claim 64, wherein the QoS includes a page transmission timing constraint (see col. 10, lines 4-6; col. 12, lines 12-18,31-40; Fig. 8B 'ref. 212'), where a paging attempt has a priority for waiting time in a buffer. Sanmugam does not specifically disclose having the feature(s) wherein the page transmission timing constraint indicates paging latency information and specifies an upper bound on paging delay. However, the examiner maintains that the

feature(s) wherein the page transmission timing constraint indicates paging latency information and specifies an upper bound on paging delay was well known in the art, as taught by Laroia.

In the same field of endeavor, Laroia discloses the feature(s) wherein the page transmission timing constraint indicates paging latency information and specifies an upper bound on paging delay (see col. 3, line 38 - col. 4, lines 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sanmugam, Miah, and Laroia to have the feature(s) wherein the page transmission timing constraint indicates paging latency information and specifies an upper bound on paging delay, in order to have latency significantly reduced in a base station transmitting a paging message to a wireless terminal receiving a paging message, as taught by Laroia (see col. 2, lines 33-36).

Claims 69, 80, 91, and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sanmugam (US 5,533,094)** in view of **Miah et al.** (hereinafter Miah) (**EP 1217855 A1**) as applied to claim 59, 70, 81, and 92 above, and further in view of **Weber et al.** (hereinafter Weber) (**US 6,314,282 B1**).

Regarding **claims 69, 80, 91, and 102**, the combination of Sanmugam and Miah discloses every limitation claimed as applied above in claim 59. The combination of Sanmugam and Miah does not specifically disclose having the feature(s) wherein the determined paging requirements includes information indicating a state of device operation in which an end node to which the page is directed is to operate after receiving the page.

However, the examiner maintains that the feature(s) wherein the determined paging requirements includes information indicating a state of device operation in which an end node to which the page is directed is to operate after receiving the page was well known in the art, as taught by Weber.

In the same field of endeavor, Weber discloses the feature(s) wherein the determined paging requirements includes information indicating a state of device operation in which a mobile terminal (7) which reads on the claimed "end node" to which the page is directed is to operate after receiving the page (see col. 5, lines 40-49,3-22; col. 6, lines 13-20; Figs. 3, 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sanmugam, Miah, and Weber to have the feature(s) wherein the determined paging requirements includes information indicating a state of device operation in which an end node to which the page is directed is to operate after receiving the page, in order to provide mode change information that will automatically change the mode of a mobile terminal, as taught by Weber (see col. 2, lines 9-13, 65-67).

Response to Arguments

6. Applicant's arguments with respect to claims 58-104 have been considered but are moot in view of the new ground(s) of rejection necessitated by the new claims.

In response to applicant's arguments, the Examiner respectfully disagrees as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations and comments in this section).

7. The Examiner requests applicant to provide support (e.g., page(s), line(s), and drawing(s) as well as comments) for the new and/or amended claim language and any further amended claim language.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIE J. DANIEL JR whose telephone number is (571)272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,Jr/

WJD,Jr
21 January 2010

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617